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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,883	03/18/2004	Yoshinori Yoshida	Q80489	5194
23373 7590 08/23/2007 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
			EXAMINER TRAN, THAO T	
			ART UNIT 1711	PAPER NUMBER
			MAIL DATE 08/23/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/802,883	<b>Applicant(s)</b> YOSHIDA ET AL.	
	<b>Examiner</b> Thao T. Tran	<b>Art Unit</b> 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 13-15 and 19-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 13-15 and 19-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This is in response to the Amendment filed on 5/29/2007.
2. Claims 1-6, 13-15, 19-28 are currently pending in this application. Claims 1 and 19-21 have been amended. Claims 7-12 and 16-18 have been canceled. Claims 22-28 have been newly added.
3. In view of the prior Office action, the 112, 1<sup>st</sup> paragraph, rejection of claims 1-6, 13-15, and 19-21 is maintained below in addition to the 112 rejection of newly added claims 22-28. The 102 rejections of claims 1-21 has been withdrawn due to the Amendment made thereto. New 112, 2<sup>nd</sup> paragraph, and new 103 rejections of the claims are set forth below.

### ***Claim Objections***

4. Claims 1-6, 13-15, 19-28 are objected to because of the following informalities: claims 1, 19-22, 26-28 contain the limitation, "retain impurities on a tip of said probe needles", that should be changed to --retain impurities from a tip of said probe needles--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-6, 13-15, 19-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which

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was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 22, 26-28 contain the at least limitation, "said cleaning layer contains no additives" and claims 1, 19-22, 26-28 contain the at least limitation, "is adapted to receive penetrating probe needles and remove and retain impurities on a tip of said probe needles", that are considered new matter because they do not have proper support in the specification as originally presented.

As mention in the prior Office action, the present specification discloses the use of additives including fillers and pigments (paragraph 0039), which are usually abrasive materials. It is noted that in the same paragraph, the specification further discloses the use of additives "in amounts within the range in which the effects of the present invention are not deteriorated". If this is what Applicants intend to claim, please state so.

There is no proper support in the specification with respect to the recitation of the cleaning layer being "adapted to remove and retain impurities on a tip of the probe needles". The specification, throughout, discloses the cleaning layer to remove impurities on the tip of the probe needles, but there is nowhere that mentions the layer to retain impurities on the probe needles.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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8. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 is indefinite due to the use of “a mixture containing a urethane polymer and a vinyl monomer”. It is unclear to the examiner whether the urethane polymer and the vinyl monomer are different than those recited in claim 1. It appears that they are not. Clarification of these compounds is required.

***Claim Rejections - 35 USC § 103***

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 1-5, 13, 19-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Skinner et al. (US Pat. 4,342,793).

Skinner discloses curing resins comprising a reactive diluent, a polyol, and a polyisocyanate that are cured both by radiation and heat (abstract). Monofunctional reactive diluents include conventional acrylic monomers (col. 5, lines 36-43). The coatings are applied to substrates, thus suggesting backing layers (col. 9, lines 64-68). Since the reactants are the same as those claimed by the applicant and since the coatings are cured by heat and radiation to form interpenetrating networks, it is the examiner's position that the coatings of the invention would possess the claimed initial elastic modulus properties.

Skinner further discloses that the amount of radiation necessary to cure the reactive diluent depends on the thickness of the coating to be applied and the amount of reactive diluent

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in the coating composition (see col. 10, ln. 32-34). Therefore, it would have been obvious to one of ordinary skill in the art that the thickness of the coating would have been adjusted depending upon user's preference and intended use. Moreover, it is noted that the claimed thickness of 10 to 500 microns is a wide range that would cover the thickness of coating conventionally used in the art.

Regarding the method, the examples show that the polyurethane, polyols, and acrylate monomers are mixed together, coated, irradiated, and thermally cured (at least example 3). Since the polyol and isocyanate monomers would react upon mixing, the reference teaches the claimed process of reacting the components to form a mixture of a polyurethane and a vinyl monomer, coating the mixture, and irradiating the coating. The final thermal cure serves to fully cure the components.

Regarding the "cleaning sheet for removing foreign matter adhering on a tip of a probe needle of a probe card" limitations, it is noted that this is an intended use for the sheet. It is the examiner's position that the coatings of the invention would be capable of wiping debris from a probe needle since it is a solid surface and more specifically because it contains the claimed materials.

With respect to the limitation, "said cleaning layer contains no additives", it is noted that Skinner does not teach the use of an abrasive, the reference thus meets the requirement of this limitation.

With respect to the limitation, "is adapted to receive ..... probe needles", it is the examiner's position that the coatings of the Skinner invention would be capable of being adapted

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to having the presently recited functions because the coatings are solid surfaces and more specifically because they contain the same claimed materials.

11. Claims 1-5, 13, 19-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grube (US Pat. 6,817,052).

Grube discloses a cleaning sheet for removing debris from probe tips (see abstract), the cleaning sheet comprising an outer surface layer 302 on roller 204 attached to a support arm 202. The outer surface 302 comprises a combination of polymeric materials, such as urethane and acrylic (see col. 7, ln. 10-23). The cleaning sheet can be multilayered and adhered to roller 204 by adhesive (see col. 8, ln. 29-41).

Although Grube is silent with respect to the thickness of the coating, it would have been obvious to one of ordinary skill in the art that the thickness of the coating would have been adjusted depending upon user's preference and intended use. Moreover, it is noted that the claimed thickness of 10 to 500 microns is a wide range that would cover thicknesses conventionally used in the art.

Grube further discloses that arm 202 supports sticky roller 204 and/or an abrasive roller or other surface (see col. 12, ln. 56-57), indicating that the outer surface 302 of roller 204 may be free of abrasive, thus meeting the requirements of the presently claimed invention. In addition, with respect to the newly added limitation, "said cleaning layer contains no additives", Grube also teaches that the cleaning pad can be made from a material having the substantially similar hardness to that of probe (see col. 9, ln. 1-20), the cleaning pad of the reference would not have additives or in an amount that would deteriorate the probe needle.

The reference also discloses that the tips of the probes can go into the cleaning pad (see col. 9, ln. 1-20), thus meeting the requirement of the newly added limitation of the probe tip penetrating the cleaning sheet. Furthermore, with respect to the newly added limitation, "is adapted to receive ..... probe needles", it is noted that this limitation is not positively recited. And it is the examiner's position that the outer surface 302 of Grube would be capable of being adapted to having the presently recited functions because the coatings of the reference are solid surfaces and more specifically because they contain the same claimed materials.

12. Claims 3-4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grube as applied to claims 1-2 and 5 above, in view of Skinner et al.

Grube is as set forth in claims 1-2 and 5 and incorporated herein.

Grube does not specifically teach the polyurethane being formed from a polyol and a polyisocyanate, or that the polymeric mixture being cured by radiation.

Skinner applies as above, teaching polyurethane coating resins that form improved tough and hard coatings on various substrates (abstract). The coatings are formed essentially free from solvent emission and are fully crosslinked (col. 2 lines 64-68). Thus, it would have been prima facie obvious to use the coatings of Skinner's invention as the binder resins of the Grube invention to provide hard, fully crosslinked coatings having improved toughness and solvent emission.



*Response to Arguments*

13. Applicant's arguments filed on 5/29/2007 have been fully considered but they are not persuasive.

It is noted that there is no Applicants' argument with respect to the 112, 1<sup>st</sup> paragraph, rejection on the limitation "said cleaning layer contains no additives". Thus, the rejection is maintained.

With respect to the prior art rejection, it is noted that due to the Amendments the claims now are rejected under 103. However, since the applied art is the same, the same arguments are maintained herein.

In response to Applicants' arguments that neither reference teaches that the cleaning sheet containing no additives or in an amount that would deteriorate the probe needle, it is noted that in both Skinner and Grube, no abrasive additive is used. Thus the references meet the requirement of the cleaning sheet having no additives or in an amount that would deteriorate the probe needle.

With respect to Applicants' argument that neither reference teaches the cleaning sheet "adapted to receive ..... probe needles", it is noted that in Grube the tips of the probes can go into the cleaning pad (see col. 9, ln. 1-20), thus meeting the requirement of the presently claimed invention. In addition, since the coatings of the references are solid surfaces and more specifically because they contain the same claimed materials, they would inherently be capable of being adapted to receive penetrating probe needles and remove the impurities on the tip of the needles without allowing the debris re-adhering to the needles again.

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Thus, Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

### *Conclusion*

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

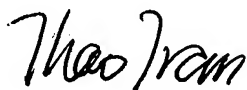
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 9:00 a.m. - 5:30 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Thao T. Tran  
Primary Examiner  
Art Unit 1711

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